

CLAIMS

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5 1. A method for manufacturing a multi-layered moulded synthetic part comprising at least a preformed elastomeric moulded skin and a moulded carrier of a thermoplastic material, which method comprises the steps of:

(a) moulding said preformed elastomeric moulded skin, and

(b) moulding the thermoplastic material for the carrier in molten state to the back of said moulded skin,

10 characterized in that said moulded skin is made of a thermosetting synthetic material.

2. A method according to the previous claim, characterized in that said thermosetting material is a polyurethane material.

15 3. A method according to claim 1 or 2, characterized in that said preformed skin is made by a spray, a RIM or a slush moulding process.

20 4. A method according to any one of the previous claims, characterized in that the thermoplastic material for the carrier is moulded to the back of the skin according to an injection pressure moulding process in a mould which is only partially closed before the thermoplastic material is injected therein in molten state and which is further closed during and/or after the injection of the thermoplastic material so that a pressure is exerted by the mould onto the molten thermoplastic material.

25 5. A method according to any one of the claims 1 to 3, characterized in that the thermoplastic material for the carrier is moulded to the back of the skin according to a low pressure moulding process in a mould wherein, before closing it, the thermoplastic material is laid down in molten state in the mould and, after having applied this thermoplastic material, the mould is closed so that a pressure is exerted by the mould onto the molten thermoplastic material.

30 6. A method according to claim 4 or 5, characterized in that after having applied the thermoplastic material in said mould, this mould

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is closed in such a manner that the pressure exerted by the mould on the molten thermoplastic material is situated between 1 and 350 kg/cm² and preferably between 10 and 80 kg/cm².

5 7. A method according to any one of the claims 4 to 6, characterized in that said mould is closed within a closing time shorter than 15 seconds, preferably within 2 to 6 seconds.

10 8. A method according to any one of the claims 1 to 3, characterized in that the thermoplastic material for the carrier is moulded to the back of the skin according to an injection moulding process in a mould wherein the thermoplastic material is injected in molten state after the mould has been closed.

15 9. A method according to any one of the previous claims, characterized in that, before moulding the thermoplastic material for the carrier to the back of the skin, a softer layer, in particular a foam backing layer, is applied against the back of the skin, which softer layer is preferably made of a polyurethane material.

20 10. A method according to the previous claim, characterized in that said foam backing layer is sprayed against the skin or is applied thereto in a mould according to a RIM process.

25 11. A method according to any one of the previous claims, characterized in that said skin is moulded against a mould surface which is either situated in the mould wherein the thermoplastic carrier is moulded or which is transferred thereto after having moulded the skin on this mould surface.

30 12. A method according to any one of the claims 1 to 10, characterized in that said skin is moulded against a first mould surface and is transferred from this first mould surface to a mould surface of the mould wherein the thermoplastic carrier is moulded.

13. A method according to the previous claim, characterized in that said first mould surface shows a superficial texture in order to produce a grained skin.

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sub a' 7 14. A method according to the previous claim, characterized in that the mould surface of the mould to which the moulded skin is transferred is free of any superficial texture.

5 15. A method according to claim 12, characterized in that the mould surface of the mould to which the moulded skin is transferred shows a superficial texture which is, as a result of the pressure and heat applied to the skin during the moulding process of the thermoplastic carrier, transmitted thereto in order to produce a grained skin.

10 16. A method according to any one of the previous claims, characterized in that the thermoplastic material from which the carrier is made is selected from the group consisting of polypropylene (PP), polycarbonate (PC), acrylnitril-butadiene-styrol (ABS), ABS blends, in particular a PC/ABS or an ABS/PA blend, acrylester-styrol-acrylnitril (ASA), polystyrol (PS) and thermoplastic polyurethane (TPU), preferably
15 from the group consisting of PC, ABS and ABS blends, and most preferably from the group consisting of ABS and ABS blends, in particular a PC/ABS or an ABS/PA blend.

20 17. A multi-layered moulded synthetic part comprising at least a preformed elastomeric moulded skin and a carrier of a thermoplastic material which is moulded in molten state to the back of said skin, characterized in that said moulded skin is made of a thermosetting synthetic material

25 18. A synthetic part according to the previous claim, characterized in that it comprises between the skin and the carrier a layer which is softer than the skin, in particular a foam backing layer, the carrier being moulded against the back of a laminate formed by the skin and the softer layer, which softer layer is preferably made of a polyurethane material.

30 19. A synthetic part according to claim 17 or 18, characterized in that said thermosetting material is a polyurethane material.

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20. A synthetic part according to any one of the claims 17 to 19, characterized in that said thermoplastic carrier shows a coarse surface on its side directed towards the skin.

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